

Date: Wednesday, 6/20/2007 11:21:35 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: AFT CROSSTUBE
Job Number	: 33027		
Estimate Number	: 10377		
P.O. Number	: <i>N/A</i>	Part Number	: D2890
This Issue	: 6/20/2007	S.O. No.	: <i>N/A</i>
Prsht Rev.	: NC	Drawing Number	: D2890 REV B
First Issue	: <i>N/A</i>	Project Number	: <i>N/A</i>
Previous Run	: 33026	Drawing Revision	: B
		Material	: <i>N/A</i>
Written By	:	Due Date	: 6/27/2007
Checked & Approved By	:	Qty:	1 Um: Each
Comment	: Est. D 05.03.21 Removed Bending procedures KJ/JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6008180	Crosstube extrusion
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part #	Description	Batch
1	D6008-180	Crosstube extrusion	<i>25667</i>

*EL 7-6-28*

2.0	BENDING	BENDING MACHINE
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Comment: BENDING MACHINE

1-Bend D2890 as per Dwg D2890 and Folio FT002

*EL 7-6-28*

3.0	QC6-	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

*7-6-28*

4.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Deburr and Polish

5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*N/A*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: D Date: 07/04/25  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Wednesday, 6/20/2007 11:21:35 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT CROSSTUBE

Job Number: 33027

Part Number: D2890

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

NIA

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: W032943

207-06-28 ①

8.0

QC21

FINAL INSPECTION/W/O RELEASE



①

Comment: FINAL INSPECTION/W/O RELEASE

207-06-29

Job Completion



W 207-06-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

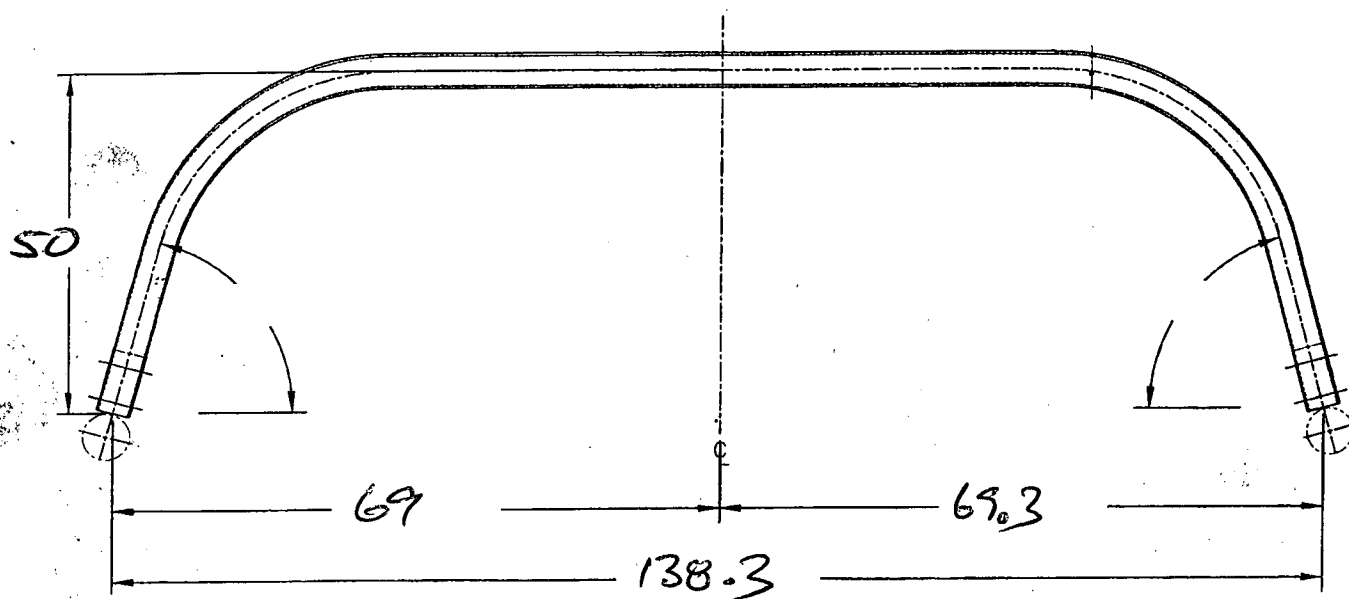
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	33027
Description: Crosstube Aft		Part Number:	D2890
Inspection Dwg: D2890		Rev: B	Page 1 of 1

Required Dimension	Min	Max
Height	49.875	50.125
1/2 Span	69.275	69.525
Angle	49	52
Total Span	138.55	139.05



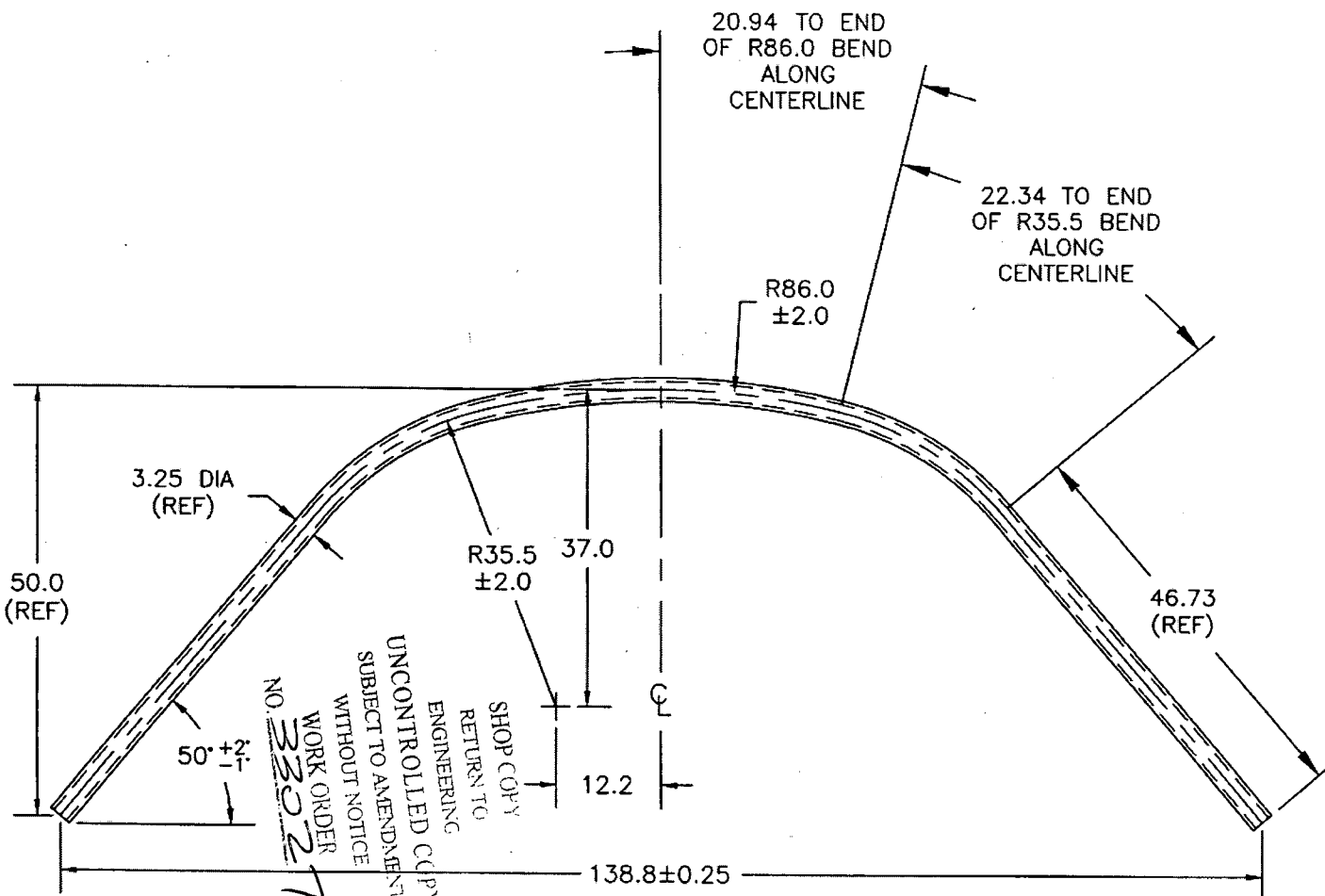
Comments
used : cut L - 103 B 32943

QC15 Inspection	2051012
Date	07-02-28

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	

**DART****RELEASED**  
02.10.28

DESIGN	DRAWN BY	DART AEROSPACE LTD
02.10.18	99.05.21	HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
02.10.18	02.10.18	D2890
DATE	TITLE	REV. B
02.10.18	AFT CROSSTUBE	SHEET 1 OF 1
A	NEW ISSUE	SCALE
B	ADD TANGENT LENGTHS; CHANGE NOTES	1:20

**NOTES**

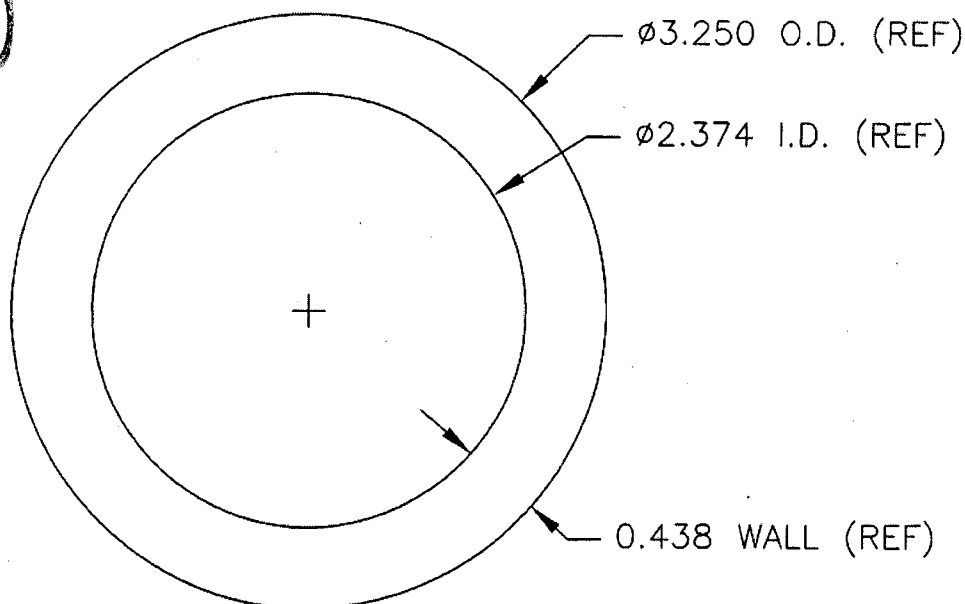
- 1) MATERIAL: MANUFACTURE FROM D6008-180 (Ø3.25 OD x 0.438 WALL)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) BEND PROGRESSIVELY WITH MINIMUM OF 3 PASSES
- 6) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
00.11.24 #



### NOTES

- 1) D6008-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 180" LONG TUBE: D6008-180

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-226/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.044$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

NO. 33027  
WORK ORDER  
WITHOUT NOTICE  
SUBJECT TO AMENDMENT  
UNCONTROLLED COPY  
RETURN TO  
ENGINEERING  
SHOP 409

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